RIEDEL ENVIRONMENTAL SERVICES 500 EASTERN AVENUE BENSONVILLE, IL 60106

2345 Millpark Drive Maryland Heights, MO 63043-3529 (314) 427-0550

ATTN: MARK DOUGLAS

INVOICE # 31932

VOLATILE ORGANIC ANALYSIS

PROJECT # 8168 - SAUGET

METHOD SW-846 8240

LANDFILL, SITE G

SAMPLE ID: METHOD BLANK

TAR TR. UDRIKIO		DD3 CMT C3.I	
LAB ID: VDBLK129	A	PRACTICAL	
		QUANTITATION	D T C 111 ma
CAS NUMBER	Ch I assault have	LIMIT	RESULTS
74-87-3	Chloromethane	$10 \mu g/kg$	U μg/kg
74-83-9	Bromomethane	10	Ŭ
85-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	Ŭ
75-09-2	Methylene Chloride	5.0	U
67-64-1	Acetone	100	U
107-02-8	Acrolein	100	U
75-15-0	Carbon Disulfide	100	Ŭ
107-13-1	Acrylonitrile	100	U
75-69-04	Trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	5.0	Ŭ
75-34-3	1,1-Dichloroethane	5.0	U
540-59-0	1,2-Dichloroethene (Total)	5.0	U
67-66-3	Chloroform	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.0	Ŭ
56-23-5	Carbon Tetrachloride	5.0	U
108-05-4	Vinyl Acetate	50	U
75-27-4	Bromodichloromethane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
79-01-6	Trichloroethene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
71-43-2	Benzene	5.0	U
10061-02-6	trans-1,3-Dichloropropene		U
75-25-2	Bromoform	5.0	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	Ū
127-18-4	Tetrachloroethene	5.0	Ū
79-34-5	1,1,2,2-Tetrachloroethane		Ū
108-88-3	Toluene	5.0	Ū
108-90-7	Chlorobenzene	5.0	Ŭ
100-41-4	Ethylbenzene	5.0	Ŭ
100-42-5	Styrene	5.0	Ŭ
1330-20-7	Xylene (Total)	5.0	Ū
1330-20-7	my conce (100a1)	3.0	5

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL

QUANTITATION LIMIT

DATE COLLECTED : ---DATE RECEIVED DATE ANALYZED : 5/9/95 ANALYST : L.C.

MAY 15, 1995

LABORATORY DIRECTOR

RIEDEL ENVIRONMENTAL SERVICES 500 EASTERN AVENUE BENSONVILLE, IL 60106 2345 Millpark Drive Maryland Heights, MO 63043-3529 (314) 427-0550

ATTN: MARK DOUGLAS

INVOICE # 31932

PROJECT # 8168 - SAUGET LANDFILL, SITE G

#### ANALYSIS REPORT

PCBs IN SOIL

SW-846 8080

LAB NO.	SAMPLE NO.	<u>IDENTIFICATION</u>	TOTAL ppm	TYPE
PCB-3468		METHOD BLANK	<2	
9505/96-001		OP-2 OILPIT 5/3/95 13:00	24	1254
9505/96-002		WHITE-1 WHITE PO 5/3/95 14:00	WDER <2	
9505/96-002 MATRIX SPIK		WHITE-1 WHITE PO 5/3/95 14:00		1248 %RECOVERY

DATE COLLECTED : 5/03/95

DATE RECEIVED : 5/04/95 15:16

DATE ANALYZED : 5/10/95

ANALYST : J.W.

MAY 15, 1995

WAYNE L. COOPER PX LABORATORY DIRECTOR

PRACTICAL

RIEDEL ENVIRONMENTAL SERVICES 500 EASTERN AVENUE BENSONVILLE, IL 60106 2345 Millpark Drive Maryland Heights, MO 63043-3529 (314) 427-0550

ATTN: MARK DOUGLAS

INVOICE # 31932

SEMIVOLATILE ORGANIC COMPOUNDS

PROJECT # 8168 - SAUGET

METHOD SW-846 8270

LANDFILL, SITE G

PAGE ONE

SAMPLE ID: METHOD BLANK

LAB ID: SASBLK6298

		PRACTICAL	
		QUANTITATION	
CAS NUMBER		<u>LIMIT</u>	RESULTS
62-75-9	N-Nitrosodimethylamine	330 μg/kg	U μg/kg
108-95-2	Phenol	330	U
111-44-4	bis(2-chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	ប
541-73-1	1,3-Dichlorobenzene	330	Ŭ
106-46-7	1,4-Dichlorobenzene	330	Ŭ
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	Ū
95-48-7	o-Cresol	330	U
39638-32-9	bis-(2-Chloro2propyl)Ether	330	U
106-44-5	m & p-Cresol	330	U
621-64-7	N-Nitroso-Di-n-propylamine	330	Ū
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	Ū
78-59-1	Isophorone	330	Ŭ
88-75-5	2-Nitrophenol	330	Ŭ
105-67-9	2,4-Dimethylphenol	330	Ū
65-85-0	Benzoic Acid	1,700	Ū
111-91-1	bis(2-Chloroethoxy)methane	330	Ū
120-83-2	2,4-Dichlorophenol	330	Ū
120-82-1	1,2,4-Trichlorobenzene	330	Ū
91-20-3	Naphthalene	330	Ū
106-47-8	4-Chloroaniline	330	Ū
87-68-3	Hexachlorobutadiene	330	Ū
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	Ū
77-47-4	Hexachlorocyclopentadiene	330	Ū
88-06-2	2,4,6-Trichlorophenol	330	Ū
95-95-4	2,4,5-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	Ū
88-74-4	2-Nitroaniline	1,700	Ŭ
131-11-3	Dimethylphthalate	330	Ū
103-33-3	Azobenzene	330	Ū
208-96-8	Acenaphthylene	330	Ū
606-20-2	2,6-Dinitrotoluene	330	Ū
99-09-2	3-Nitroaniline	1,700	Ū
83-32-9	Acenaphthene	330	Ŭ
51-28-5	2,4-Dinitrophenol	1,700	Ŭ
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RIEDEL ENVIRONMENTAL SERVICES 500 EASTERN AVENUE BENSONVILLE, IL 60106

2345 Millpark Drive Maryland Heights, MO 63043-3529 (314) 427-0550

ATTN: MARK DOUGLAS

INVOICE # 31932

SEMIVOLATILE ORGANIC COMPOUNDS

PROJECT # 8168 - SAUGET METHOD SW-846 8270

LANDFILL, SITE G PAGE TWO

SAMPLE ID: METHOD BLANK

LAB ID: SASBLK6298		PRACTICAL	
<b>11.13 13.</b> 01.02		QUANTITATION	
CAS NUMBER		LIMIT	RESULTS
100-02-7	4-Nitrophenol	$1,700 \mu g/kg$	U μg/kg
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenol phenyl ether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	1,700	U
534-52-1	4,6-Dinitro-2-methylphenol	1,700	U
86-30-6	N-Nitrosodiphenylamine	330	U
101-55-3	4-Bromophenyl phenyl ether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1,700	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
92-87-4	Benzidine	330	U
129-00-0	Pyrene	330	Ŭ
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	Ŭ
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenzo(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	Ŭ

U = UNDETECTED

B = PRESENT IN BLANK

J = DETECTED, BUT BELOW PRACTICAL

QUANTITATION LIMIT

DATE COLLECTED : ---DATE RECEIVED : ---DATE EXTRACTED : 5/8/95 DATE ANALYZED : 5/9/95 : D.C. ANALYST

MAY 15, 1995

LABORATORY DIRECTOR

RIEDEL ENVIRONMENTAL SERVICES 500 EASTERN AVENUE BENSONVILLE, IL 60106 2345 Millpark Drive Maryland Heights, MO 63043-3529 (314) 427-0550

ATTN: MARK DOUGLAS

INVOICE # 31932

PROJECT # 8168 - SAUGET LANDFILL, SITE G

#### VOLATILE ORGANIC SURROGATE RECOVERY FORM

LAB_ID	SAMPLE_IDENTIFICATION	S1 1,2-DCA-d4	S2 TOL-d8	S3 BFB
VDBLK129A	METHOD BLANK	94	101	100
9505/96-001	OP-2 OILPIT	99	99	106

S1 - 1,2-DICHORORETHANE-d4

S2 - TOLUENE-d8

S3 - BROMOFLUOROBENZENE

113

EPA SAMPLE NO.

### SEMIVOLATILE ORGANICS MATRIX SPIKE SAMPLE

Lab Name: Environmetrics

Contract: RIEDEL Maryland Heights, MO 43043-3529 (314) 427-0550

Code: 8270 Case No.: SAS No.:

SDG No.:

fatrix: (soil/water) SOIL

Lab Sample ID: 9505-096-001

Sample wt/vol: 2.0 (g/ml) g

Lab File ID:

>A6802

Level: (low/med)/LOW

Date Received: 05/04/95

Moisture: 16.0 decanted: (Y/N) N

Date Extracted: 05/08/95

loncentrated Extract Volume: 100,000 (uL)

Date Analyzed: 05/09/95

Injection Volume: 1.0 (uL)

Dilution Factor: 60,000

3PC Cleanup: (Y/N) N pH: NA

COMPOUND	Conc.	Sample	Spike	Recovery
	1		4.000.00	1
Phenol	820000	0 1	1200000	69
2-Chlorophenol	980000	1 0 1	1200000	! 82
1.4-Dichlorobenzene	520000	0 1	600000	68
N-Nitroso-Di-nPropylamine	0	0 1	€00000	0
1,2,4-Trichlorobenzene	640000	: 0 !	600000	107
4-Chlore-3-Methylphenol	1 1030000	0 1	1260000	1 88
Acenaphthene	730000	3	600000	123
4-Nitrophenol	690000	0 4	<b>120</b> 000 <b>0</b>	58
/ 2,4-Dinitrotoluene	600000	. 1	500000	101
Pentachlorophenol	640000	1 0 i	1200000	
Pyrene	810000	; 0 i	600000	136
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SOIL SEMIVOLATILE SURROGATE RECOVERY

# **ENVIRONMETTAGE**

2345 Millaark Drive

Lab Name: Environmetrics Contract: RIEDEL Maryland Heights, MO 63043-3529

code:

Case No.: DRY

SAS No.:

SDG No.:

(314) 427-0550

Level: (low/med) LOW

EPA SAMPLE NO.	S1  /NBZ\#	S2    (DCB)#	S3	S4	\$5   (PHL)#	S6  (2CP)#	S7  (2FP)#		TOT
	======	( <i>D</i>	=====					======	===
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9505096001	83	116	146 *	1 137	79	91	83	87	1
9505096003	88	123	152 *	144 *	83	94	92	114	2
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				QC	LIMITS	
S1	(NBZ)	=	Nitrobenzene-d5	(23	-120)	
<b>S2</b>	(DCB)	=	1,2-Dichlorobenzene-d4	(23	-120)	(advisory)
53	(FBP)	=	2-Fluorobiphenyl	(30-	-115)	
<b>S4</b>	(TPH)	*	Terphenyl-d14	(18-	-137)	
<b>S</b> 5	(PHL)	=	Phenol-d5	(24-	-113)	
<b>S</b> 6	(2CP)	=	2-Chiorophenol-d4	(24	-113)	(advisory)
<b>S7</b>	(2FP)	*	2-Fluorophenol	(25-	-121)	
<b>S8</b>	(TBP)	=			-122)	

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D Surrogates diluted out

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### SOIL SEMIVOLATILE SURROGATE RECOVERY

2345 Milleark Drive

Lab Name: Environmetrics Contract: RIEDEL Maryland Heights, MO 63043-3529

(314) 427-0550

code:

Case No.: DRY

SAS No.:

SDG No.:

rel:(low/med) LOW

EPA SAMPLE NO.	S1  (NBZ)#:	S2  (DCB)#	53  (FBP)#	S4  (TPH)#	S5  (PHL)#	S6  (2CP)#	57  (2FP)#	S8  (TBP)#	TO OU
SASBLK6298	79	98	107	121	76	78		82	<b>*</b> = 
9505096002	79	110	140 *	131	74	82	82	84	1
9505096-2MS	77	111	141 *	1 154 x	73	82	I 79	85	
SASBLK6298	75	97	101	1 115	74	78	72	87	
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						LIMITS	5		
	1 (NBZ)		obenzer			-120)			
				obenzen	_		(adviso	ry)	
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	4 (TPH) 5 (PHL)			37.4	•	-137) -113)			
				nol-d4		-113} -113)	(adviso	ו מיצי	
	7 (2FP)		-	•	•	-121)	(aavist	<b>*</b> I J	
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#### QC LIMITS

<b>S</b> 1	(NBZ)		Nitrobenzene-d5	(23-120)
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S2 (DCB) = 1,2-Dichlorobenzene-d4(23-120)(advisory)

S3 (FBP) = 2-Fluorobiphenyl (30-115)

S4 (TPH) = Terphenyl-d14 (18-137)

S5 (PHL) = Phenol-d5 (24-113)

<sup>56 (2</sup>CP) = 2-Chlorophenol-d4(24-113)(advisory)

S7 (2FP) = 2-Fluorophenol(25-121)

<sup>58 (</sup>TBP) = 2,4,6-Tribromophenol (19-122)

<sup>#</sup> Column to be used to flag recovery values

<sup>\*</sup> Values outside of contract required QC limits

D Surrogates diluted out

ESF

## REQUIREMENTS FOR ANY QA/QC LEVEL

<u>Please Note:</u> If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

i.	Date sampled 5-3.55 Date received 5.4-55
2.	Number of samples received $\frac{2 \int_{\mathcal{B}} PCB}{\sqrt{2}}$
3.	Sample description Waste ail & Salel Waste
4.	Sample preparation date 5-16-65  Date extracted (if applicable) 5-16-65  14.15
5.	Date analyzed 5-10-95 Time analyzed 15:23 Analyst Color Color Walk
6.	Did Riedel indicate a specific method? Yes X No
	a. If Yes, what was that method? SW 846 8080
7.	Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes No _ K If yes, please specify.
	a. What QA/QC level was requested? Used by lab?
	b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab.
ЭС 1	Remarks (Required as relates to QA/QC level requested)
l .	Were holding times met? Yes X No If No, why?
	Test Methods
2.	a. Parameters SW 846 8080
2.	a. Parameters SW 846 8080
2.	b. Approved Methods
<b>!.</b>	
	b. Approved Methods

3.	Were peak resolutions (i.e. Chromatograms) requested? Yes No _ If Yes, please comment		
4.	Initial calibration (% Relative Standard Deviation) < 2 0		
5.	Has continuing calibration (% difference) been requested? If yes, indicate % difference.		
6.	Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes No		
,	a. If Yes, indicate I.D. No. and %.  b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained.  Only Matrix Spike Requested		
7.	Were surrogates run for Organic Analyses? Yes No _X		
	a. If Yes, indicate type and recovery (Min. Recovery is 80%).		
	b. If not, indicate why not.  Patter recognition for PCB		
	c. If min. recovery was not obtained, indicate why not?		
8.	Please provide the following as applicable.		
	a. Minimum Detection Limits: < 2 PPM		
	b. Estimated Quantitation Limits: < 2 ppm c. Dilution Factor: Variable depending on deletion or Matrix interfere		
9.	Wese any other annomalies encountered during the analysis? Yes No ×		
	a. If Yes, type:		
	b. If Yes, why were they observed?		
10.	Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes K No		
	a. If yes, ENVIVONMETTICS  states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.		
11.	WARNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and		
,	all SW 846 Methods or EPA Methods utilized for this project.		

Any incorrect data that is released to <u>any</u> authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause Environmental Services be completely liable for all costs associated with those decisions.

## REQUIREMENTS FOR ANY QA/QC LEVEL

<u>Please Note:</u> If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

Gene	ral Req	uirements/Information (Required for all QA/QC Levels)	
i.	Date	sampled 5-3.55 Date received 5-4.55	
2.	Num	ber of samples received I for Valatile Analysis	
3.	Samp	ole description Waste al	
4.	Samp Date	extracted (if applicable)	
5.	Date Analy	analyzed 5-5-55 Time analyzed 16.53	
6.	Did R	Riedel indicate a specific method? Yes X No	
	a.	If Yes, what was that method? Sw 846 8240	
		tiedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes If yes, please specify.	
	a.	What QA/QC level was requested? Used by lab?	
	b.	If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab.	
QC R	emarks	(Required as relates to QA/QC level requested)	
1.	Were	holding times met? Yes X No If No, why?	
2.	Test Methods		
	a.	Parameters SW84 8240	
	b.	Approved Methods	
•	c.	Was a cleanup method requested for Semi-Volatile Organic Analyses?	
		1. Yes No <	
		2. If No, what method was used and why?	
		3. If Yes, identify method used?	

3.	Were peak resolutions (i.e. Chromatograms) requested? Yes No If Yes, please comment		
4.	Initial calibration (% Relative Standard Deviation) < 30  Has continuing calibration (% difference) been requested? If yes, indicate % difference. < 20		
5.			
6.	Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes No No		
,	a. If Yes, indicate I.D. No. and %.  b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained.  Matrix Spike is mot Applicable to this Matrix		
7.	Were surrogates run for Organic Analyses? Yes X No		
	a. If Yes, indicate type and recovery (Min. Recovery is 80%).		
	b. If not, indicate why not.		
	c. If min. recovery was not obtained, indicate why not?		
8.	Please provide the following as applicable.		
	a. Minimum Detection Limits: 5 b. Estimated Quantitation Limits: 5 c. Dilution Factor: Variable alguerating on delition + Matrix		
9.	Were any other annomalies encountered during the analysis? Yes No <a href="#">No</a> .		
	a. If Yes, type:		
10.	Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes Ko		
	a. If yes, ENVIYONMETTICS states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.		
11.	WARNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and		

Any incorrect data that is released to <u>any</u> authorized Riedel Environmental Services, Inc. representative or their client that causes improper site related work or disposal decisions to be made by Riedel Environmental Services, Inc. or their client, will cause <u>Environmetrics</u> be completely liable for all costs associated with those decisions.

all SW 846 Methods or EPA Methods utilized for this project.

## REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

í.	Date sampled 5/3/45 Date received 5/4/95			
2.	Number of samples received			
3.	Sample description 1 Sluge/ 2 Solids			
4.	Sample preparation date			
5.	Date analyzed Time analyzed			
5.	Did Riedel indicate a specific method? Yes No			
	a. If Yes, what was that method?			
7.	Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Ye No If yes, please specify.	:s		
	a. What QA/QC level was requested? Used by lab?			
	b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supply by lab.			
QC 1	Remarks (Required as relates to QA/QC level requested)  Were holding times met? Yes No If No, why?			
2.	Test Methods			
	a. Parameters Total RCPA 9 + Cy. Ni, 2n			
	a. Parameters Total RCPA 9 + Cy, NI, Zw b. Approved Methods 6010 Approved Methods			
	c. Was a cleanup method requested for Semi-Volatile Organic Analyses?			
	1. Yes No			
	2. If No, what method was used and why?			
	3. If Yes, identify method used?			

3.	Were peak resolutions (i.e. Chromatograms) requested? Yes No If Yes, please comment		
4.	Initial calibration (% Relative Standard Deviation)		
5.	Has continuing calibration (% difference) been requested? If yes, indicate % difference.		
6.	Were all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes No _X_		
,	a. If Yes, indicate I.D. No. and %.  b. If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained.  See Attachment		
7.	Were surrogates run for Organic Analyses? Yes No IM		
	a. If Yes, indicate type and recovery (Min. Recovery is 80%).		
	b. If not, indicate why not.		
	c. If min. recovery was not obtained, indicate why not?		
8.	Please provide the following as applicable.		
•	a. Minimum Detection Limits:		
9.	Were any other annomalies encountered during the analysis? Yes No		
	a. If Yes, type:		
10.	Was this laboratory work performed under either "Minimum and Mandatory Contractual Terms for Analytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a "Master Subcontract" with your laboratory, specifically for ERCS Region V? Yes K No		
	a. If yes, ENVIYONMETTICS states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.		
11.	WARNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized representative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QA/QC levels established in any written or verbal RFP for this project, or the requirements for any and all SW 846 Methods or EPA Methods utilized for this project.		

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## **Inorganic Metals Case Narrative**

#### Attachment

Client: Riedel Environmental Services

Project: 8168-02

### Matrix & Matrix Spike Duplicate:

For project 8168-02 sample 9505-96-3-1 (Client ID. RB-1) was selected for MS/MSD. All results were within acceptable recovery and RPD ranges, except for Copper & Lead. Lead produced recoveries of 77% and 98%, within our range of 75-125%; however, the RPD is 21% above the desired limit of 20%. Copper returned recoveries of 77% and 262%. The matrix of this sample contains "hot spots" making representative sampling for spike & duplicate analysis near impossible.

## REQUIREMENTS FOR ANY QA/QC LEVEL

Please Note: If a CLP Package or the USEPA QA/QC Reporting Package known as "Quality Assurance/Quality Control - Guidance for Removal Activities" is requested all QA/QC reporting documentation required in those documents takes precedence over these requirements.

í.	Date sampled 5/3/95 Date received 5/4/95
2.	Number of samples received
3.	Sample description
4.	Sample preparation date
5.	Date analyzed 5-9+10-95 Time analyzed  Analyst Coro D
6.	Did Riedel indicate a specific method? Yes X No
	a. If Yes, what was that method? 5W 846 8270
7.	Did Riedel specify additional QA/QC requirement beyond the minimum and mandatory items? Yes in the No If yes, please specify
	a. What QA/QC level was requested? Used by lab?
	b. If lab used a different QA/QC level than requested by Riedel, an explanation must be supplied by lab.
QC I	Remarks (Required as relates to QA/QC level requested)
1.	Were holding times met? Yes No If No, why?
2.	Test Methods
	a. Parameters 8270
	b. Approved Methods
•	c. Was a cleanup method requested for Semi-Volatile Organic Analyses?
	1. Yes No /
	· · · · · · · · · · · · · · · · · · ·
	1. Yes No 2  2. If No, what method was used and why? None Needed  3. If Yes, identify method used?

Initi	al calibration (% Relative Standard Deviation) 30
Has	continuing calibration (% difference) been requested? If yes, indicate % difference.
Wer	e all Matrix Spikes/Matrix Spike duplicates < 20% RSD? Yes No
a. b.	If Yes, indicate I.D. No. and %.  If No, indicate I.D. No. and %, plus why the < 20% RSD was not obtained.  Only Matrix Spike Amalyses
Wer	e surrogates run for Organic Analyses? Yes No
а.	If Yes, indicate type and recovery (Min. Recovery is 80%).
b.	If not, indicate why not.
c.	If min. recovery was not obtained, indicate why not?
Please provide the following as applicable.	
a. b. c.	Minimum Detection Limits: 330  Estimated Quantitation Limits: 330  Dilution Factor: Variable depending on Matrix + deletion
Were	e any other annomalies encountered during the analysis? Yes X No
a. b.	If Yes, type: Sample contained Source Making Officel  If Yes, why were they observed?
Anal	this laboratory work performed under either "Minimum and Mandatory Contractual Terms for ytical Laboratories not on the Pre-Approved Midwest/Great Lakes Region Acceptance List" or a ster Subcontract" with your laboratory, specifically for ERCS Region V? Yes <a href="mailto:No">X</a>
а.	If yes, ENVIronmetrics states that the USEPA document known as "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures Interim Final EPA/540/G-90/004 April 1990" was utilized as guidance in the review and validation of all data for this project.
repre QA/(	RNING!! NO DATA SHALL BE RELEASED verbally, written, or otherwise to any authorized sentative of Riedel Environmental Services, Inc. or their client that does not meet or exceed the QC levels established in any written or verbal RFP for this project, or the requirements for any and W 846 Methods or EPA Methods utilized for this project.

Were peak resolutions (i.e. Chromatograms) requested? Yes \_\_\_\_ No \_ 11 Yes, please comment. \_

3.

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